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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/853,823 | 05/11/2001 | David Long | 50277-1561 | 6447 |

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EXAMINER

ALI, SYED J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2195

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 09/853,823 | Applicant(s) LONG ET AL. | |
| | Examiner Syed J Ali | Art Unit 2195 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-18 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/7/04; 2/22/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed December 27, 2004. Claims 1-18 are presented for examination.

2. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections - 35 USC § 102

3. **Claims 1-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Rich et al. (USPN 6,457,065) (hereinafter Rich).**

4. As per claim 1, Rich teaches the invention as claimed, including a method for performing operations in an electronic file system, the method comprising the steps of:

receiving a command to perform one or more file system operations (col. 7 lines 56-59; col. 17 lines 51-57; col. 19 lines 30-33);

in response to said command, performing a plurality of operations including said one or more file system operations (col. 7 lines 56-59; col. 17 lines 51-57; col. 19 lines 30-33);

wherein the step of performing the plurality of operations includes:

performing a first subset of said plurality of operations as part of a first transaction (col. 7 line 53 - col. 8 line 18; col. 8 line 63 - col. 9 line 40); and

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performing a second subset of said plurality of operations as part of a second transaction that is nested in said first transaction (col. 7 line 53 - col. 8 line 18; col. 8 line 63 - col. 9 line 40).

5. As per claim 2, Rich teaches the invention as claimed, including the method of claim 1 wherein the step of performing the plurality of operations further includes the step of performing a third subset of said plurality of operations as part of a third transaction that is nested in said second transaction (col. 7 line 53 - col. 8 line 18; col. 8 line 63 - col. 9 line 40).

6. As per claim 3, Rich teaches the invention as claimed, including the method of claim 1 wherein the second subset of operations are operations that are triggered by an operation that belongs to said first subset of operations (col. 8 line 63 - col. 9 line 40; col. 10 line 42 - col. 11 line 14).

7. As per claim 4, Rich teaches the invention as claimed, including the method of claim 1 wherein:

the step of receiving the command is performed by an entity that resides external to a database server (col. 7 line 53 - col. 8 line 18; col. 11 lines 21-35; col. 17 lines 51-55); and

the step of performing said plurality of operations includes said entity sending database commands to said database server (col. 7 line 53 - col. 8 line 18; col. 11 lines 21-35; col. 17 lines 51-55; col. 21 lines 51-55).

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8. As per claim 5, Rich teaches the invention as claimed, including the method of claim 4 wherein the step of performing said second subset includes:

the entity sending to the database server a savepoint command for the database server to establish a savepoint (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41); and

after the entity sends to the database server a savepoint command, the entity sending to the database server commands for performing said second subset of said plurality of operations (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41).

9. As per claim 6, Rich teaches the invention as claimed, including the method of claim 5 further comprising the entity responding to a failure of an operation in said second subset by sending to the database server a command to roll back to said savepoint (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41).

10. As per claim 7, Rich teaches the invention as claimed, including the method of claim 4 further comprising the entity maintaining a transaction list by performing the steps of:

adding an entry to the tail of the transaction list when the entity sends a savepoint command to the database server to start a nested transaction (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41); and

when an operation fails, determining the savepoint to roll back to based on the entry at the tail of the transaction list (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41); and

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removing the entry from the tail of the transaction list when the nested transaction fails or completes successfully (col. 7 line 53 - col. 8 line 18; col. 11 lines 49-67; col. 12 lines 27-41).

11. As per claim 8, Rich teaches the invention as claimed, including the method of claim 3 wherein:

the one or more file system operations include an operation on a folder (col. 9 line 41 - col. 10 line 41); and

the second subset of operations includes operations associated with one or more documents within the folder (col. 9 line 41 - col. 10 line 41).

12. As per claim 9, Rich teaches the invention as claimed, including the method of claim 4 further comprising the steps of:

the entity determining whether all operations that are to be performed as a nested transaction are read only (col. 13 lines 4-28; col. 15 lines 1-46; col. 16 line 56 - col. 17 line 3);

if all operations that are to be performed as the nested transaction are read only, then sending commands to perform the operations without first sending a command to establish a savepoint (col. 13 lines 4-28; col. 15 lines 1-46; col. 16 line 56 - col. 17 line 3); and

if all operations that are to be performed as the nested transaction are not read only, then sending a command to establish a savepoint prior to sending commands to perform the operations (col. 13 lines 4-28; col. 15 lines 1-46; col. 16 line 56 - col. 17 line 3).

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13. As per claims 10-18, Rich teaches the invention as claimed, including a computer-readable medium carrying instructions for performing the method of claims 1-9, respectively (col. 5 lines 28-58).

Response to Arguments

14. Applicants' arguments filed December 27, 2004 have been fully considered but they are not persuasive.

15. Applicants argue that "*Rich does not teach, describe or suggest that its technique for replicating objects among distinct nodes in a distributed system apply in any way to file system operations performed in a file system.*"

Applicants add that "*Rich discloses use of nested transactions exclusively for managing changes to replicated objects [or replicas] and changes to remote objects in persistent storage. Nothing in Rich describes, teaches, or even remotely suggests that nested transactions may be used to manage any file system operations.*"

16. Examiner respectfully disagrees. Rich discusses a transactional approach to performing operations upon data, particularly data in a database or persistent storage. Furthermore, Rich explicitly states that file system operations are supported (col. 21 lines 51-55, "Any type of persistent store, however organized [such as a file system], may be used").

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17. Applicants argue that Rich *“does not describe, teach or suggest ‘receiving a command to perform one or more file system operations’, let alone describe ‘performing a plurality of operations including said one or more file system operations’ as recited in claims 1 and 10.”*

18. Examiner respectfully disagrees. First, it should be noted that Rich describes a transaction management subsystem issuing database operations, i.e. queries, to retrieve objects from a database or storage (col. 17 lines 51-57). Further, Rich describes a transaction as a “logical group of changes to one or more objects that will be performed in an atomic manner” (col. 7 lines 56-59). Finally, Rich discusses these transactions being performed upon any type of storage medium, including databases, persistent storage, or file systems (col. 21 lines 51-55). Thus, Rich clearly discloses receiving a command to perform a plurality of file system operations.

19. Applicants argue that Rich *“fails to teach that an entity other than a database server receives a command to perform one or more file system operations, and that a database server performs a plurality of operations that include the one or more file system operations.”*

20. Rich discloses a transaction management subsystem, which handles the database queries and issues transaction requests. This transaction management subsystem is not a part of the database server, and thus is an entity other than a database server (col. 3 lines 1-3; col. 17 lines 51-55). Furthermore, given Rich’s transactional approach, where each transaction performs a logical group of operations upon the database, persistent store, or file system, Rich teaches a database server performing a plurality of operations that may include one or more file system operations (col. 17 lines 51-55; col. 21 lines 51-55).

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Syed J Ali whose telephone number is (571) 272-3769. The examiner can normally be reached on Mon-Fri 8-5:30, 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai T An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Syed Ali
April 1, 2005



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